



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/587,498

09/20/2006

Tanja Bendele

903-196 PCT/US

8290

23869 7590 10/29/2008
HOFFMANN & BARON, LLP
6900 JERICHO TURNPIKE
SYOSSET, NY 11791

EXAMINER

RUMP, RICHARD M

ART UNIT

PAPER NUMBER

4181

MAIL DATE

DELIVERY MODE

10/29/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,498	Applicant(s) BENDELE ET AL.	
	Examiner Richard M. Rump	Art Unit 4181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status of Application

Claims 1-16 are pending and presented for examination.

Priority

Acknowledgement is made of applicant's request for foreign priority under 35 U.S.C. §119(a)-(d). Certified copies of the priority documents have been **received**.

Specification

The disclosure is objected to because of the following informalities:

In paragraph 40 of the specification the term "dipol-dipol" is mentioned. This should read "dipole-dipole".

In paragraph 59 of the specification the phrase "This can by a controlled..." is mentioned. This is not grammatically correct.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 2, 3 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "high" in claims 2 & 3 is a relative term which renders the claim indefinite. The term "high" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. High mechanical energies is mentioned in claim 2 and high kinetic energies in claim 3.

The term "high-energy" in claim 16 is a relative term which renders the claim indefinite. The term "high-energy" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. The mills are being modified by the term "high-energy".

Claim 16 provides for the use of high energy mills in claim 1 wherein it is used in a tribochemically induced phase transformation, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 16 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under

Art Unit: 4181

35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-8, 11-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Kaczmarek *et al.* (hereinafter referred to as Kaczmarek, WIPO Publication No. 9610539).

Regarding independent claim 1 and dependant claims 2-8, Kaczmarek discloses a tribochemical process (see figure 11), for the purposes of transforming alpha Fe_2O_3 to gamma Fe_2O_3 (page 3, lines 21-29 and page 17 lines 8-17) or Barium Ferrite to hematite (example 1). The overall process is said to go very fast (page 18, line 4). It is inherent that ball milling involves high mechanical and kinetic forces and that the phase transformation takes place at the contact surfaces as is normal with any grinding/milling operation. The transformation from alpha (99.6 %) to (100%) gamma is a crystalline phase transformation (page 16, line 28 and page 17, line 6 respectively). During the milling process as shown in figure 9, an amorphous layer would form which would then crystallize.

Art Unit: 4181

Regarding dependant claim 11, the process of Kaczmarek would be a semicontinuous process as the milling is done with both dry and wet conditions (page 18, lines 11-34).

Regarding dependant claims 12 & 13, Kaczmarek discloses that defined oxygen partial pressures are used (figure 2 and page 18, line 1 respectively). Furthermore that an argon atmosphere at 4 atm is used (page 19, line 2).

Regarding dependant claim 14, Kaczmarek discloses that 800K can be used for the temperature in the milling process (page 18, line 13).

Regarding dependant claim 15, Kaczmarek discloses that barium ferrite will be partially decomposed (and as such undergoes a displacive phase transformation (HCP (p63/mmc) to corundum type-structure (bar32m)) to alpha ferrite. The density of barium ferrite is 5 g/cc (NPL U) while that of alpha ferrite is 5.3 g/cc (NPL V) (example 1).

Regarding dependant claim 16, Kaczmarek discloses that a complex metal oxide is milled with a high energy device (page 18 line 14).

Claims 1 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 06-345992 (hereinafter referred to as '992).

Regarding independent claim 1 and dependant claim 9, '992 discloses a milling operation which transforms from alpha metal-free phthalocyanine to the X-type ([0011]).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 4181

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 06-345992 (hereinafter referred to as '992).

Regarding dependant claim, '992's teaching is mentioned by the above 102 rejection. However, the usage of a non-metal phthalocyanine is never expressly used in the examples or the claim language. However, in paragraph 0004 '992 discloses various metal phthalocyanines. As such, it would be an obvious variant to attempt this process with one that uses metal.

Citation of Relevant Prior Art

The following is additional prior art made of record but not relied upon that is considered pertinent to applicant's disclosure.

- a) NPL V (Shows barium ferrite density)
- b) NPL U (Shows hematite density)

Conclusion

Claims 1-16 have been rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard M. Rump whose telephone number is (571)270-5848. The examiner can normally be reached on Monday through Friday 7:30 AM-5:00 PM (-5 GMT).

Art Unit: 4181

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vickie Kim can be reached on (570)272-0579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. M. R./
Examiner, Art Unit 4181

/Vickie Kim/
Supervisory Patent Examiner, Art Unit 4181